



FRESCO PAINTING II.

In a former Article were described the methods of preparing the cartoon and the wall for the reception of the fresco: we come now to detail,—

3. *The process of painting.* The wall being properly prepared, the outline of the figures is to be traced with a sharp point on the plaster, as before described. The artist commences his work when the surface is in such a state that it will barely receive the impression of the finger, and not so wet as to allow the colours to run or to be liable to be stirred up by the brush. If the wall has been previously well wetted it will in general not dry too rapidly; but if in warm weather the surface becomes too hard to imbibe the colour properly, a small quantity of water is from time to time sprinkled over the surface.

The colours being ground fine in water, and the most useful tints abundantly supplied, they are arranged in pots or basins, and several pallettes with raised edges are ready at hand to work from. A few pieces of tile or some absorbent material are provided to prove the tints upon, because all colours ground in water become much lighter when dry than they appear when wet. The brick absorbs the water, and leaves the colour nearly in the state in which it will appear upon the wall.

The first tints that are applied sink in and have a faint appearance; it is therefore necessary to go over the work several times before the full effect is produced: but after some time the last addition of colour will not unite with that already applied unless the part be again wetted.

At the close of a day's work, any portion of the prepared plaster which remains over and above the finished part is to be cut away, care being taken to make the divisions at a part where drapery, or some object, or its outline forms a boundary, for if this be



GHOTESQUE FRESCO. (From the Vatican.)

not attended to, the work will appear patchy. The next day in preparing a new surface, the edges of the previously painted portion must be carefully wetted so as to ensure a perfect junction of all the parts of the painted surface.

At Munich the artists have a contrivance for arresting the drying of the work should they be unable to finish the day's allotted portion. A piece of fine linen is wetted and spread over the fresh plaster and painting, and pressed to the surface by means of a cushion covered with waxed cloth.

Defects are sometimes remedied by cutting out the objectionable portion, and painting it anew upon a fresh surface of plaster. In the finished fresco, shadows are sometimes deepened, parts are rounded, subdued, or softened by hatching in lines of the colour required, mixed up with vinegar and white of egg. Crayons made of pounded egg-shells are sometimes used to heighten the lights. But all these additional amendments are highly objectionable; they impair the durability of the fresco, and in the open air these retouchings are useless, because the rain washes them away, whereas it has no influence upon frescos painted without retouching.

4. *The colours and implements.* The colours employed in fresco painting are few and simple. They consist chiefly of earths and a few metallic oxides variously prepared. No animal and vegetable substances can be used, because the lime would destroy them. The brushes are of hog's hair, but longer than those

used in oil painting. Small pencils of otter hair are also used; no other hair being found to resist the lime. Pure distilled water ought to be employed in all the operations of this art.

Such is the process of fresco painting, the details of

which, after the above statement, will be rendered more intelligible by the following abridged account of a visit, by Mr. Andrew Wilson, to the royal palace at Genoa, to see the Signor Pasciano paint a ceiling in fresco:—

The artist had prepared his tints upon a table with a large slate for the top: they consisted of terra vert, smalt, vermilion, yellow ochre, Roman ochre, darker ochre, Venetian red, umber, burnt umber, and black. These colours were all pure, mixed with water only, and rather stiff. He mixed each tint as he wanted it, adding to each from a pot of pure lime, or from one containing a very pale flesh tint. A lump of umber served to try his colours on. He used a resting-stick with cotton on the top to prevent injury to the prepared wall, or *intonaco*, as the Italians call it. The moment this surface would bear touching, the artist began to work upon the figure, the outline of which had just been traced. The head was that of the Virgin. The artist began with a pale tint of yellow round the head for the glory; he then laid in the head and neck with a pale flesh colour, and the masses of drapery round the head and shoulders with a middle tint, and with brown and black in the shadows. He next, with terra vert and white, threw in the cool tints of the face; then with a pale tint of umber and white modelled in the features, covered with the same tint the part where the hair was to be seen, and also indicated the folds of the white veil. All this time he used the colours as thin as we do in water colours; he touched the *intonaco* with great tenderness, and allowed ten minutes to elapse before touching the same spot a second time. He now brought his coloured study, which stood on an easel near him, and began to model the features, and to throw in the shades with greater accuracy. He put colour in the cheeks, and put in the mouth slightly, then shaded the hair and drapery, deepening always with the same colours, which became darker and darker every time they were applied, as would be the case on paper for instance. Having worked for half an hour, he made a halt for ten minutes, during which time he occupied himself in mixing darker tints, and then began finishing, loading the lights and using the colours much stiffer, and putting down his touches with precision and firmness: he softened with a brush with a little water in it. Another rest of ten minutes; but by this time he had nearly finished the head and shoulders of his figure, which being uniformly wet, looked exactly like a picture in oil, and the colours seemed blended with equal facility. Referring again to his oil study, he put in some few light touches in the hair, again heightened generally in the lights, touched too into the darks, threw a little white into the yellow round the head, and this portion of his composition was finished, all in about an hour and a half. This was rapid work, but it will be noticed that the artist rested four times, so as to allow the wet to be sufficiently absorbed into the wall to allow him to repass over his work. He now required an addition to the *intonaco*; the tracing was again lifted up to the ceiling, and the space to be covered being marked by the painter, the process was repeated, and the body and arms of the figure were finished.

On the occasion of a second visit, Mr. Wilson remarked that the artist had cut away from his tracing or cartoon those parts which he had finished upon the ceiling; that the tracing was in fact cut into several portions, but always carefully divided by the outline of figures, clouds, or other objects. These pieces were nailed to the plaster, so as to fold inwards or outwards for the convenience of tracing the outlines. The artist was now about to proceed with a group of figures. Having gone over the outline carefully with a steel point he waited till the *intonaco* became a little harder, and in the meantime mixed up a few tints; he then commenced with a large brush, and went over the whole of the flesh; he next worked with a tint which served for

the general mass of shadow, for the hair, and a slight marking out of the features. He now applied a little colour to the cheeks, mouth, nose and hands, and all this time he touched as lightly as possible. He then paused for ten minutes, examined his oil study, and watched the absorption of the moisture.

The *intonaco* would now bear the gentle pressure of his fingers, and with the same large brush, but with water only, he began to soften and unite the colours already laid on. He had not as yet used any tint thicker than a wash of water colour, and he continued to darken in the shadows without increasing the force or depths of colour. The artist now increased the number of his tints; he made them of a much thicker consistence, and he now began to paint in the lights with a greater body of colour, softening them into the shades with a dry brush or with one a little wet, as was required. In drying, the water comes to the surface and actually falls off in drops, but this does no harm, although, as Mr. Wilson remarks, it sometimes looks alarming.

The effect of fresco painting is described as being exceedingly beautiful. It does not require for the production of its general effect those particular and concealed lights which the shining surface of an oil-painting renders necessary. Fresco is seen entire in any situation and by any light, even by artificial light, which perhaps shows it best. Mr. Severn was much struck by the increased beauty and power of the Caracci frescos at Rome by artificial light. Even a dim or diminished light does not destroy their effect.

It must have been for this reason that Raphael adopted fresco in the Vatican, after he had made experiments in oil; for the rooms are so ill-lighted that oil pictures could never have been seen at all; and it is surprising to find such fine works in such a place. Three sides of the rooms are illuminated merely by the reflected light from the great wall of the Sistine chapel, yet this beautiful and luminous material of fresco is so brilliant in itself that the pictures are well seen. Nine of them were painted without a ray of real light, and have always been seen in the same way. I think this is a very important consideration, for as we have but a diminished light at any time, it is most necessary to adopt a manner of painting suited to it, which can be seen at all times.

Fresco does not seem to be at all understood in this country; it is generally confounded with scene painting; it is a common mistake to suppose that the cartoons of Raphael are the same as his frescos: it is often confounded with distemper painting, which is done on a dry ground, and does not admit of richness of colour.

This will be clearly understood, (writes Mr. Severn,) by those who have had the good fortune to see Raphael's and Guido's frescos at Rome, which, for colour are exquisitely beautiful, and even powerful in all the fascinations of this part of the art, presenting to us still greater varieties than oil painting can pretend to; excelling in all the delicate effects of atmosphere, from the gorgeous daylight, the air of which you seem to breathe in a fresco picture, down to the silvery fitting charm of twilight. In these particulars it reminds us of English water-colour effects. Then I should mention the magnificence of fresco landscape, and of landscape backgrounds, particularly by Domenichino, in which not only the characters, but the movements of trees are always rendered in a way which I have rarely seen in oil colours. . . . Then I must remind you of the grandeur of colour and effect in Michael Angelo's frescos on the ceiling of the Sistine chapel. What oil could ever have approached such things? When he said "that oil painting was only fit for women and children," he meant on account of the labour and difficulties of the material compared with fresco. We are assured he performed this gigantic labour in twenty months, without the usual assistance of colour-grinders or plasterers, but alone with his own hand. There are on this ceiling fourteen figures, of at least forty feet in stature, and nearly five hundred figures, the least of which are double the size of life. While we regard this as the most extraordinary example of individual human power we must consider that it was only in the simplicity and ease of the fresco material that Michael Angelo could have accomplished such a stu-

pendous work. The preparation of oil colours, varnishes, &c., would alone have occupied the twenty months.

The small cost and great durability of fresco are not the least of their advantages. It was feared that the smoke of London would soon destroy our frescos, but Professor Hess stated that "if frescos were painted in the open air in London, the rain would be the best picture-cleaner." Indeed, competent authorities agree that pure water and a soft sponge are the best means for cleaning frescos from the effects of smoke. That the change effected by time upon the colours is to increase their effect. The great enemy to fresco is a wall constitutionally damp, in which lime in too new a state has been employed, or new timber or imperfectly burnt bricks. The nitre which sometimes accumulates on walls is also very destructive.

Nor are frescos such permanent fixtures as is generally imagined. Some ingenious Italians have succeeded perfectly in removing large frescos from one wall and applying them securely to another. The colours in fresco do not penetrate very deep, and the thin layer of pigment and lime of which the painting consists may be removed by glueing several layers of calico to the wall: a slight force is then sufficient to detach the painting: it is removed to its new bed, and when firmly attached, the cloths and glue may be removed by warm water.

In concluding this notice of a beautiful art, the practice of which is still unknown in this country, let us hope that the encouragement which is now being given to British artists to cultivate fresco painting may be the means of introducing and establishing in England the grand style of historical art, and that its enlightening and refining effects may be felt by the people generally, who in seeing portrayed on the walls of our public buildings the deeds of their ancestors, or the sublime and beautiful creations of our poets, may venerate all that is good and noble in the institutions of our country, and each individual be reminded that he is himself a Briton, and has to uphold the honour and dignity which attaches to that name.

It is impossible to look on the historical fresco painting of Italy, recording, as it does so powerfully, the valour and genius of the Italians, without thinking on England; and reflecting that with a history more heroic, and with a genius more useful, we have nothing of the kind in painting—no public works to remind us of our illustrious ancestors. The Italians adorned their public buildings in fresco, not only with the great events recorded in their national history, but every man recalled and recorded the illustrious deeds of his ancestors, whether public or private, which could confer honour on his name and family. This noble emulation continued from generation to generation; and we see in the monuments which remain, worthy memorials of the triumphs of mind in civil arts, as well as the triumphs of war. These now, in the fallen state of Italy, are all that remain to her of past glory, and it is this which interests the traveller at every step. Who does not remember the Colonna palace at Rome? the family now a name and nothing more, yet its former deeds are written there: the principal of which was the great battle of Lepanto. Hundreds of similar examples might be cited; and the influence of this system of beautiful decoration has extended even down to the cottage, however humble, where you always find some little elegancies to remind you that you are in Italy. It is but reasonable to hope that when fresco painting shall have been introduced here under the patronage of the state, it will extend itself in a like manner to the adornment of the houses of the nobility; not only in tracing there the great actions of their ancestors which may bear comparison with those of any age or country, but in recording the great events of our own times, events which are moving and modifying the world. These are the true decorations of buildings, these are things to be proud of, and these we shall accomplish by the introduction of fresco painting. The oil portraits of our ancestors are all that remain to us, but fresco will portray their actions. When we reflect on the illustrious names and the illustrious deeds connected with them, there seems no bound to the field of fresco painting.

EASY LESSONS ON REASONING.

LESSON XII.

§ 1. THE Dictum [or Maxim] above explained as the Universal-principle of Reasoning, will apply to a Syllogism in such a form as that of the examples given. "Every (or No) X is Y; Z (whether some Z or every Z) is X; therefore—some, or every—Z is Y;" or "No Z is Y;" or "Some Z is not Y;" as the case may be.

And in that form every valid argument may be exhibited.

But there are other Syllogisms in other forms, to which the "Dictum" cannot be immediately applied, (tho' they may be reduced into the above form) and which yet are real Syllogisms, inasmuch as their conclusiveness is manifest from the form of expression, independently of the meaning of the Terms.

For instance, "no Savages have the use of metals; the ancient Germans had the use of metals; therefore they were not savages," is a valid Syllogism, tho' the Dictum cannot be applied to it as here stated. But it may readily be reduced into the form to which the Dictum does apply; by illatively-converting the Major-premise, into "men who have the use of metals are not Savages."

But the argument as it originally stood was a regular Syllogism; and so are some others also in a different form; altho' the Dictum does not immediately apply to them.

Accordingly, certain rules [or "Canons"] have been framed which do apply directly to all categorical Syllogisms, whether they are or are not in that form to which the Dictum is immediately applicable.

1st Canon. Two terms which agree with one and the same third, may be pronounced to agree with each other: and

2nd Canon. Two Terms whereof one agrees and the other disagrees with one and the same third, may be pronounced to disagree with each other.

The technical sense of the words "agree" and "disagree" have been explained in a former Lesson.

The two Terms which are each compared with the same third, are the Terms [or "Extremes"] of the Conclusion; viz.: the Major-term and Minor-term: and that third Term with which they are separately compared in the two Premises, is the Middle-term.

On the former of these two Canons rests the proof of affirmative-conclusions; on the latter, of negative.

§ 2. To take first a Syllogism in the form originally given: "Every X is Y; Z is X; therefore Z is Y;" or again "No X is Y; Z is X; therefore Z is not Y:" in these examples, "Y" and "Z" are in the two Premises respectively, compared with "X:" in the former example they are assumed to "agree" with it; and thence, in the Conclusion, they are pronounced (according to the 1st Canon) to "agree" with each other; in the latter example, "Y" is assumed to "disagree" with "X" and "Z," to "agree" with it; whence in the Conclusion they are pronounced (according to the 2nd Canon) to "disagree" with each other.

Again, to take a Syllogism in the other form, such as that in this Lesson, "No Savages &c." or, "No Y is X; Z is X; therefore Z is not Y;" you will perceive that the 2nd Canon will apply equally well to this as to the preceding example.

You will also find, on examination of the apparent-syllogisms [fallacies]—of which examples were given in former Lessons, and whose faultiness was there explained,—that they transgress against the above "Canons."

Take for instance, "Some X is Y; Z is X; therefore Z is Y;" and again "Every Y is X; Z is X; therefore Z is Y;" or "every tree is a vegetable; grass is a vegetable; therefore grass is a tree:" in these (as was formerly explained) the Middle-term is *undistributed*;

* See Lesson ix. § 7.

+ See the example from Hume, respecting Testimony.

[taken-particularly in both premises] the two "Extremes" therefore [Terms of the Conclusion] have been compared each with *part* only of the Middle; and thence we cannot say that they have each been compared with *one and the same third*: so that we are not authorized to pronounce their agreement or disagreement with each other.

But remember, that it is sufficient if the Middle-term be distributed in *one* of the Premises; since if one of the "Extremes" (of the Conclusion) has been compared with *part* of the "Middle" and the other, with the *whole* of it, they have both been compared with the same; since the whole must include every part. And accordingly, in the form originally given "Every X is Y; Z is X" &c. you may observe that the Middle term is distributed in the Major-premise, and undistributed, in the Minor.

§ 3. Again, take the example formerly given, of "illicit-process;" [proceeding from a term undistributed in the Premise, to the same, distributed, in the Conclusion] as, "Every X is Y; Z is not X; therefore Z is not Y;" or, "Every tree is a vegetable; grass is not a tree, therefore grass is not a vegetable;" here the "Extremes," which, in the Conclusion are compared together, are not really what had been compared, each, with the Middle. For in the Conclusion, it is the *whole* of the term "vegetable" that is compared with the term "grass;" (since negatives distribute the Predicate) tho' it was only *PART* of that term that had been, in the Premise, compared with "tree;" the Predicate of an "Affirmative" being undistributed.

In this instance therefore, as in the former one, the Canons have not been complied with; each of these apparent-syllogisms having in reality four terms.

You will observe also that when the Middle-term is *ambiguous*, there are, in some, *two* Middle-terms, tho' you may have, apparently, a correct Syllogism: as "Light is opposite to darkness; feathers are light; therefore feathers are opposite to darkness." The word "light" is here used *equivocally*. (See the explanation in Lesson vii. § 3 of "univocal" and "equivocal.")

So glaring an equivocation as this, could, of course, deceive no one, and could only be employed in jest*. But when there is a very *small* difference between the two senses in which a Middle-term is used in the two Premises, then, tho' the reasoning is not the less destroyed, the equivocation is the more likely to escape notice. And men are practically deceived in this manner, every day, both by others, and by themselves.

§ 4. For instance, there is an argument of Hume's (in the Work referred to in a former example and which is said to have been convincing to some persons) which may be regularly stated, thus: "nothing that is contrary to experience can be established by testimony; every miracle is contrary to experience; therefore no miracle can be established by testimony." Now the middle-term, "contrary to experience" admits of being understood in either of two senses: sometimes (and this is the strict and proper sense) it means "what we know by our own experience to be false;" as for instance, if several witnesses should depose to some act having been done, at a certain time and place, by a person known to me, and in whose company I was, at that time, and in a different place, I should be enabled to contradict their testimony from my own experience.

Sometimes again the expression is employed to denote "something which we have *never experienced*, and have not known to be experienced by others:" which would be the case with the ascent of a balloon, for instance, to one who had never seen or heard of such a thing; or with the freezing of water, to a king of Bantam, mentioned by Hume.

Now if the Term "contrary to experience" be understood in this latter sense in *both* Premises, then the Major-Premise of the Syllogism will be manifestly false;

* Most jests, it is to be observed,—such as puns, conundrums &c.—are *mock-fallacies*.

since it would imply that that king of Bantam, or any one living in a hot Country, could have no sufficient reason for believing in the existence of ice. And if the term be understood (in *both* Premises) in the other sense, then the *Minor* will be false; since a Man cannot say that he *knows by his own experience* (whatever he may believe, or judge, and however rightly) the falsity of every individual narrative of every alleged miracle.

But if the term is in each Premise to be so understood as that *each* shall be true, then, it is evident that it must be taken as *two* different terms, (in sense, tho' not in sound) no less than the term "light" in the former example.

§ 5. As for the truth or falsity of any Premise, or the sense in which any Term is to be understood, in this or that Proposition, of course no fixed rules can be given; as this must evidently be determined, in each case, by the subject-matter we are engaged on.

But tho' no rules can be given for *detecting* and *explaining* every fallacious ambiguity, it is useful to learn and to keep in mind, *where to seek* for it: namely, to look to the *Middle-term* (the argument having been first stated in a syllogistic form) and observe whether *that* is employed precisely in the same sense in each Premise.

As for the Terms of the *Conclusion*, there is not much danger of error or fallacy from any possible ambiguity in one of these; since in whatever sense either of these is employed in the Premise, it will naturally be understood in the Conclusion, in that same sense; tho' in itself, it might admit of other meanings.

If, for instance, any one should conclude that the "Plantain" is "worth cultivation in places where it will flourish, because it produces a vast amount of human food," you would understand him to mean, both in the Premise and the Conclusion, the fruit-bearing "Plantain" of the West Indies, and not the herb that grows in our fields.

Sometimes however, in a long train of Reasoning, a person may be led into error, by remembering merely that a certain Proposition *has* been proved, while he forgets in *what sense* it was proved.

§ 6. There are six rules commonly laid down, as resulting from the two Canons above mentioned; by which rules any apparent Syllogism is to be tested: since none can be objected to which does not violate any of these rules; and any apparent-syllogism which does violate any of them, is not, in reality, conformable to the above Canons.

- i. A Syllogism must have *three* and only three, Terms.
- ii. It must have three, and but three, Propositions.
- iii. The Middle-term must be *one* only, [*i.e.* not *double*] and therefore must be *unequivocal*, and must be (in one at least of the Premises) *distributed*.
- iv. No Term is to be distributed in the Conclusion that was not distributed in the Premise: [or, there must be no "illicit-process."]

- v. One at least of the Premises must be affirmative; since, if both were negative, the Middle-term would not have been pronounced either to agree with each of the "Extremes," or to agree with one and disagree with the other; but to *disagree* with *both*; whence nothing can be inferred: as "No X is Y; and Z is not X," evidently affords no grounds for comparing Y and Z together.

- And vi. If one Premise be *negative*, the *Conclusion* must be negative; since—inasmuch as the other Premise must be affirmative—the Middle will have been assumed to agree with one of the "Extremes" and to disagree with the other.

All these rules will have been sufficiently explained in what has been already said.

And from these you will perceive that in every Syllogism one Premise at least must be Universal; since if both were Particular, there would be either an undistributed Middle, or an *illicit-process*.

For if each Premise were I (Particular-affirmative) there would be no distribution of any Term at all: and if the Premises were I and O, there would be but one Term,—the Predicate of O [the Particular-negative]—distributed; and supposing that one to be the Middle, then the Conclusion (being of course *negative*, by rule vi) would have its Predicate—the Major-term—distributed, which had not been distributed in the Premise. Thus "Some X is Y; some Z is not X," or again "Some X is not Y; some Z is X," would prove nothing.

And for the like reasons, if one of the Premises be Particular, you can only infer a Particular Conclusion: as "every X is Y; some Z is X," will only authorize you to conclude "Some Z is Y;" since to infer a Universal would be an "*illicit-process of the Minor-term*."

§ 7. What is called the "*Mood*" [or "*Mode*"] of a Syllogism, is, the designation of the three Propositions it contains (in the order in which they stand) according to their respective Quantity and Quality; that is according as each Proposition is A, E, I, or O.

Looking merely to the arithmetical calculation of *permutations*, (as it is called) all the possible combinations of the four Symbols, by threes, would amount to 64. For each of the 4 admits of being combined, in *pairs*, with each of the 4: [as A, with A, with E, with I, and with O; &c.] which gives 16 pairs; and each of these 16 pairs admits of being combined with each of the 4 as a third; which gives $16 \times 4 = 64$.

But it is plain that several of these combinations are such as could not take place in a Syllogism. For instance E, O, O, could not be a Mood of any Syllogism, since it would have *negative-premises* (See Rule V.) nor I, O, O, which would have both premises *particular*; and so with many others.

There will be found on examination to be in all only eleven Moods in which any Syllogism can be expressed: and these are, A, A, A,—E, A, E,—A, I, I,—E, I, O,—A, E, E,—A, O, O,—A, A, I,—I, A, I,—E, A, O,—O, A, O,—A, E, O.

§ 8. What is called the "*Figure*" of a Syllogism, is, the *situation of the Middle-term*, in the two Premises respectively, with relation to the two "*Extremes*" [or Terms] of the Conclusion,—the Major, and Minor-terms.

It is evident that all the possible collocations of the Middle must be four: since it must be either the Subject of the Major-premise and the Predicate of the Minor; or the Predicate of each; or the Subject of each: or the Predicate of the Major and Subject of the Minor.

On looking to the examples originally given, you will see that a Syllogism in that form ["Every X is Y; Z is X; therefore Z is X"] has the *Middle-term made the Subject of the Major-premise*, and the *Predicate of the Minor*.

This is called the *First Figure*; and it is to Syllogisms in this Figure above that the "*Dictum*" above-mentioned will at once apply.

§ 9. If you look to the form afterwards exemplified, (§ 1 of this Lesson,) as "No savages, &c.," or "No Y is X; Z is X; therefore Z is not Y," you will see that the Middle is the *Predicate of each Premise*. This is called the *Second Figure*. And in this, evidently none but *negative* Conclusions can be proved; since one of the Premises must be *negative*, in order that the Middle-term may be (by being the *Predicate of a Negative*) distributed.

Again, the Middle-term may be the *Subject of each Premise*. And this is called the *Third Figure*. Thus "Some X is Y; every X is Z; therefore some Z is Y;" is a correct Syllogism in the third figure, being conformable to the first *Canon*.

And the Syllogism here given as an example may be easily reduced to the first Figure, by simply-converting the Major-premise, and taking it for the *Minor*; [*transposing the Premises*] which will enable you to infer the simple-converse of the Conclusion: as "Every X is Z;

Some Y is X; therefore Some Y is Z:" and this implies that "some Z is Y;" since (as was explained formerly) the simple-conversion of I is *illative*.

For instance, "some painful things are salutary; every thing painful is an object of dread; therefore some things which are objects of dread are salutary;" this, though a valid Syllogism as it stands, may be reduced, in the manner above stated, to the first Figure.

In this, or in other ways, any Syllogism in the 3d Figure may be easily "*reduced*" (as the technical phrase is) to the 1st Figure.

In this 3d Figure you will find that none but *Particular* Conclusions can be drawn. To infer a Universal, would always, you will find, involve an "*illicit process of the Minor-term*." For if the Premises are both Universal, which (as we have already seen (§ 6.)) they must always be, to warrant a Universal Conclusion) then, supposing them to be A, A, there will have been, in this third Figure—no term distributed except the Middle; (affirmatives not distributing the Predicate) and consequently no term can be distributed in the Conclusion; which must therefore be I.

And if the Premises be E and A, there will have been (besides the Middle) only one term,—the Predicate of E,—distributed; and consequently only one term can be distributed in the Conclusion; and that one must be the Predicate of O; since the Universal [E] would have *both* terms distributed.

§ 10. The third Figure might be called the "*exceptive*" or the "*refutatory*" Figure; (or, agreeably to the expression of the Greek writers, the "*enstatic*;") as being a very natural form of expressing arguments which go to establish the *contradictory of some Universal Proposition*, that any one may have maintained, or that may be generally believed.

For instance, if any one were speaking of "metals" as being, *universally*, "conductors of heat," you might adduce "Platina" as an *exception*. Or should any one contend that "no agent incapable of distinguishing moral good and evil (as for instance, a madman) can be deterred from any act by apprehension of punishment," you might refute this, by adducing the case of a brute,—for instance, a dog—deterred from sheep-biting by fear of punishment. And such arguments would fall very naturally into the 3d Figure.

It is, especially, the most natural form in which to express an argument—such as we often employ for the above purpose—in which the Middle-term is a *Singular-term*; as when, for instance, you prove by the example of a certain individual*, the contradictory of the Proposition (which would seem to most persons a very probable conjecture) that a deaf and dumb person, born blind, cannot be taught *language*.

The second figure may be called the "*exclusive*" Figure; being a very natural form for arguments used in any inquiry in which we go on *excluding*, one by one, certain suppositions, or certain classes of things, from that which we are seeking to ascertain.

Thus, certain symptoms, suppose, exclude "*small-pox*;" that is, prove this *not* to be the patient's disorder; other symptoms, suppose, exclude "*Scarlatina*" &c., and so one may proceed by gradually narrowing the range of possible suppositions.

These three Figures are the only ones in which any argument would, designedly, be stated. For, as to *what* is called the 4th Figure (in which the Middle-term is made the Predicate of the Major-premise and the Subject of the Minor) tho' a Syllogism so stated would be undeniably valid if conformable to the rules (as "every Y is X; no X is Z; therefore no Z is Y") this form is only a clumsy and *inverted* way of stating what would naturally be expressed in the 1st Figure; as, in this example, might be done by transposing the Premises, and simply-converting the Conclusion.

* See the Note in a former Lesson, on the case of Laura Bridgeman.

MISSIONARY HYMN.

WHERE rolls the stormy billow
Along the troubled deep;
Where verdant prairies pillow
The sunbeams as they sleep;
Where hills with heaven are blending;
Where spreads the dreary waste;
Where torrents are descending,
The Gospel heralds haste.

Where perfume-breathing flowers
Shed fragrance on the gales
That sweep through rosy bowers
Of sunny Persia's vales;
Where o'er the snow-clad mountains
Swell China's busy hum;
Where flow those olden fountains,
The gladsome tidings come.

The forest dark is hushing
The murmur of the blast,
While melodies are gushing
Unknown in ages past;
And softly, sweetly stealing
Upon the desert air,
The Sabbath bells are pealing
To wake the voice of prayer.

Old Grecian temples hoary,
Decayed with vanished time,
Shrines famed in song and story,
Reverberate that chime;
And louder, louder swelling,
It sweeps o'er Afric's shore,
With gentle music quelling
The lion's angry roar.

Lord! in Thy mercy speeding,
Thy chosen heralds guide,
That they in triumph leading
Thy people scattered wide,
From every clime and nation
May gather them in one,
Till earth with adoration
Hails the eternal Son.

Till in each mortal dwelling,
As in Thy realms above,
High songs of praise are swelling
To hymn redeeming love;
Till every home's an altar,
Where holy hearts set free
In service never falter,
Unchanged in love to Thee.

WINSLOW'S *Remains*.

No man should desire eminent stations, without comparing his strength with the burden, and having reason to hope that he shall be able to acquit himself, as the laws of God and man require.—JORTIN.

THE visible creation, it has been well said, was Adam's library. There may be times, places, and occasions, in which a page out of a book in that library may impart not only instruction to the head, but consolation to the heart. When that persevering traveller, Mungo Park, was at one period of his perilous course, fainting in the vast wilderness of an African desert, naked and alone, considering his days as numbered, and nothing appearing to remain for him but to lie down and die, a small moss flower of extraordinary beauty caught his eye. "Though the whole plant," said he, "was not larger than one of my fingers, I could not contemplate the delicate conformation of its roots, leaves, and capsules, without admiration! Can that Being who planted, watered, and brought to perfection, in this obscure part of the world, a thing which appears of so small importance, look with unconcern upon the situation and sufferings of creatures formed after his own image? Surely not. Reflections like these would not allow me to despair; I started up, and disregarding both hunger and fatigue, travelled forwards, assured that relief was at hand; and I was not disappointed." And with the disposition to wonder and adore, in like manner, can no branch of natural history be studied, without increasing that faith, love, and hope, which we also, every one of us, need, in our own journey through the wilderness of life.—STANLEY'S *Familiar History of Birds*.

CANADIAN SKETCHES.

III.

LOWER CANADA AND ITS INHABITANTS.

IN sketching some of the chief features of town-life in Canada, our attention is naturally directed to Quebec, as the spot most closely connected with the government and the history of the Colony.

This city is situated upon the north-east extremity of a promontory called Cape Diamond, three hundred and fifty feet above the level of the St. Lawrence. The river St. Charles enters the St. Lawrence at Quebec in such a manner as to form a kind of basin or harbour in front of the town; and the elevated cliff near the junction is that upon which the town is situated. Quebec is divided into Upper and Lower; the latter being built at the base of the promontory, nearly on a level with high-water mark; and the former on the summit of the cliff; the communication between the two being maintained by a long, narrow, winding, and extremely steep street. The highest part of the promontory is crowned by the citadel. The upper town contains the government buildings, the residence of the governor, the military force, and the most opulent of the inhabitants, and is altogether a cheerful and handsome place. The lower town is much more crowded and mean in appearance, inconvenient, and not kept in a clean state; the streets are narrow; and the houses have a gloomy and monotonous appearance. Many of the dwellings are built of wood, but the warehouses are formed of stone, and more worthy of the character of the place. It has been well observed, that in going through the lower town, a traveller, accustomed to France and its port-towns, is at once sensible of the origin of the race who first colonized this part of the world: high houses with long folding windows; narrow dirty streets; very little shop-window display; and as little outward symptoms of business—are the characteristics.

In connection with the citadel on the top of the cliffs are several ranges of barracks; none of them very handsome edifices, but large and durable; the one called the artillery barracks comprises a gunners' barrack, the ordnance offices, storehouses, and an armoury, in the latter of which twenty thousand stand of arms of every description are always kept ready in perfect order. The garrison usually consists of two regiments of the line, two companies of artillery, and one of sappers and miners; besides which there are militia, cavalry and infantry, always available; so that the place is well protected.

The Protestant Cathedral is a plain modern edifice; and the Roman Catholic Cathedral is a large building with a heavy dome and spire. Among the other public buildings are the Government House, the Presbyterian Kirk, the Hotel Dieu, the Ursuline Convent, and the Gaol. Many of the public and private buildings are roofed with tin, respecting which Sir R. Bonnycastle makes these remarks:—

The tin spires of the churches, and the roofs of the best houses, give it (Quebec) a lively appearance, and one very different from those of Europe, when viewed from the river. It is singular to see these bright coverings glistening in the sun, years after they were originally laid over the buildings, although for a great part of the time rain and snow pour over them. The whole secret of preventing oxidation consists in fastening the sheets of tin with tinned nails, in such a manner that the wet of the atmosphere never touches the nails, or the holes made by them in the tinned iron. These roofs, highly useful as they are in affording a free passage for the body of snow which lodges on them when the thaw commences, and also for the safety they afford from fires and chimneys, have nevertheless their inconveniences. They are of course very expensive; and if, by the neglect of the workmen who put them on, or by any damp the sheets of tinned iron may have previously contracted, they become oxidized and holes are formed, which soon become large, and give much trouble. Sometimes the

whole side of a roof must be taken off if the slightest repair, which the soldering-iron cannot effect, becomes requisite.

Before noticing the inhabitants, we will visit the other important town of Lower Canada, Montreal. This, though not occupying so high a rank in government and military affairs as Quebec, is the first in size and commercial importance. The city stands upon an island in the St. Lawrence, about thirty miles in length by six or eight in breadth, occupying part of the southern shore of this island. The bank of the river on which Montreal is built has a gradual elevation of from twenty to thirty feet, sloping again at the back of the town, where there is a canal to carry off any accumulated water. Including the suburbs, it is much more extensive and somewhat more populous than Quebec; but it resembles the latter in being divided into an upper and a lower town. The whole of the lower town has a gloomy and uncomfortable appearance, the streets being narrow and incommodious. It consists of one principal street for shops and trade, which runs parallel to the river, with others crossing it at right angles and also intersecting another street which separates the upper from the lower town.

The upper town contains several spacious public buildings, with a number of fashionable dwelling-houses, built of stone; and the villas in the neighbourhood have an imposing appearance. An esplanade, called the Champ de Mars, is appropriated to the exercise and review of troops. Among the public buildings, the new Roman Catholic Cathedral is said to be the most splendid place of worship in the whole of America. The foundation-stone was laid in 1824, and it was opened for public worship in 1829. The length of the building is two hundred and fifty feet, and the width two hundred and thirty. The style of architecture is taken from the rich Gothic of the thirteenth and fourteenth centuries. It has six massive high towers; and between these along the roof is a promenade twenty-five feet wide, elevated more than a hundred feet from the ground. It has one superior altar and six of less grandeur; and is provided with five public, and three private entrances. The eastern window behind the altar is seventy feet high by thirty-three broad; while the altars, the bells, the clocks, and all the interior arrangements, are on a corresponding scale of magnitude. Eight thousand persons frequently assemble in it at one time; and it is capable of holding twelve thousand.

The principal English church at Montreal is a handsome and spacious edifice; the Scotch kirk a plain and unadorned one. The government-house, court-house, and prison are substantial buildings, but without any pretensions to architectural beauty. There is an English University, where the various branches of a polite and learned education are taught; and a Natural History Society, which has been of great use in illustrating the natural history, and unfolding the vast resources of America. Among other buildings are a Mechanics' Institution, a General Hospital, and a well-conducted news-room.

We shall presently explain the tenure of land in Lower Canada; but we may here state that the whole island of Montreal is comprised in one "Signiory," and is claimed by the Seminary of St. Sulpice, which consists of twenty members and four assistants. They discharge the whole parochial duties for the Roman Catholic population of the town and suburbs; and they maintain, in whole or in part, a college, at which about two hundred young men are educated in the classics and sciences. They also educate, at various schools which they have established, more than thirteen hundred scholars. The revenues of the seminary have been estimated at 7000*l.* per annum. The feelings of the Protestant inhabitants have been often much mortified, in being compelled to submit to demands for the support of institutions contrary to their principles; but, we believe, the recent changes in the government of Canada have included certain modifications in the

powers and privileges retained by the Seminary of St. Sulpice.

Montreal enjoys a considerable trade, and possesses several manufactures. There is a cast-iron foundry; and steam-engine machinery is made in the town. There are likewise ship-yards, breweries, distilleries, and other large establishments. Montreal cannot boast of any wharfs; but the ships and steamers lie quietly in tolerably deep water, close to the clayey bank in front of the city. From its position, Montreal will probably always constitute one of the greatest commercial emporiums of America; and it must increase in magnitude and importance, along with the rapid improvement and increasing population of the surrounding districts. The trade is not suspended in Winter as at Quebec, for during that season, thousands of sledges come in from all directions laden with agricultural produce, frozen carcasses of beef and pork, firewood, and other articles. In return there are given manufactured goods of all kinds, the warehouses and markets being always well supplied. In Summer vast rafts of timber pass Montreal for Quebec; and boats of a rude construction bring down the productions of the upper country. The St. Lawrence, near Montreal, is always, except in the depth of Winter, the abode of a numerous floating population, presenting many characteristic features. First, there are the *voyageurs*, or Canadian boatmen, who have gained such notoriety in connexion with the fur-trade. This occupation, since the amalgamation of the Hudson's Bay and North-West Companies, has in a great measure left Canada; and the *voyageurs* now transport baggage and passengers from Upper to Lower Canada, and *vice versé*, their skill and experience enabling them to overcome the difficulties of the rapids in the St. Lawrence and the Ottawa. Then there are the *lumberers*, who cut wood in the upper districts, make it up into rafts, and bring these rafts down to Montreal. Besides these there are the crews of numerous steam-boats, schooners, and boats, engaged in various kinds of traffic on the St. Lawrence.

In order to gain some insight into the character of the inhabitants of Lower Canada, it will be desirable to separate them into three classes—the early French settlers—the inhabitants of townships—and those of the large towns, such as Quebec and Montreal.

Canada was discovered and colonized at a time when the ancient *feudal* customs were not yet extinguished in Europe; and it was parcelled out in accordance with those customs. However, as the settlements of the country gradually acquired strength and consequence, and its government became a subject of more immediate solicitude to the French crown, a variety of modifications were, from time to time, introduced in the feudal code, that tended on the one hand to abridge the exorbitant privileges of the seigneur, and on the other to add to the independence of the vassal. Hence arose a singular kind of tenure of land, which prevailed nearly all over Lower Canada until 1790, and still retains its prominence in the older districts.

By the ancient custom of Canada lands were held immediately from the King *en fief*, or *en roture*, on condition of rendering fealty and homage on accession to the seignorial property; and in the event of a transfer by sale, it was subject to the payment of a fifth part of the whole purchase money; and this custom is still retained. The holders of land *en fief* are bound to grind their corn at the *moulin banal*, or the lord's mill, where one-fourteenth part of it is taken as *mouture*, or payment for grinding; to repair the highways and by-roads passing through their lands; and to make new ones, which, when opened, must be surveyed and approved by the grand voyer of the district. Various other duties exacted from the landholder by the seigneur or lord of the fief would seem, to persons of English habits, to render the feudal tenure of Lower Canada rather a burdensome and unwelcome one. But,

in looking a little further into the situation of an early settlement, it will perhaps be found that the feudal system is the best calculated to aid and promote the first steps of colonization, from the circumstance of its requiring less capital, and of its concentrating the energies of a new settlement, in such a way as to enable the settlers mutually to assist each other; whilst at the same time they enjoy the countenance, aid, and protection of the seigneur, who is himself interested in the prosperity of a rising colony that is to give increasing value to his property.

The French inhabitants in the rural districts of Lower Canada are still nearly the same people, in dress, manners, and occupations, as they were before the country passed into the possession of the English. They constitute, in effect, a numerous body of landholders, who live by the produce of their own labour from their own property. Unlike their neighbours of the United States, they show no tendency to a roving disposition; they cling with pertinacity to the spot which gave them birth, and cultivate with industry and contentedness the little plots of land which have fallen to their share.

The writer of *A Political and Historical Account of Lower Canada*, gives the following account of the state of the people as to comforts:—

The comforts of the people, if compared with any other nation, are wonderfully great; their food, from their French habits, consists not of animal food to the same extent as that of the richer English, but is, nevertheless, nourishing and abundant. No griping penury here stints the meal of the labourer, no wan and haggard countenances bear testimony to the want and wretchedness of the people. I may say, I believe, without exaggeration, that throughout the whole Canadian population no instance can be found of a family unprovided with the complete and comfortable means of subsistence; the food, indeed, is oftentimes coarse, but always wholesome.

From the length of the winter it is found necessary to

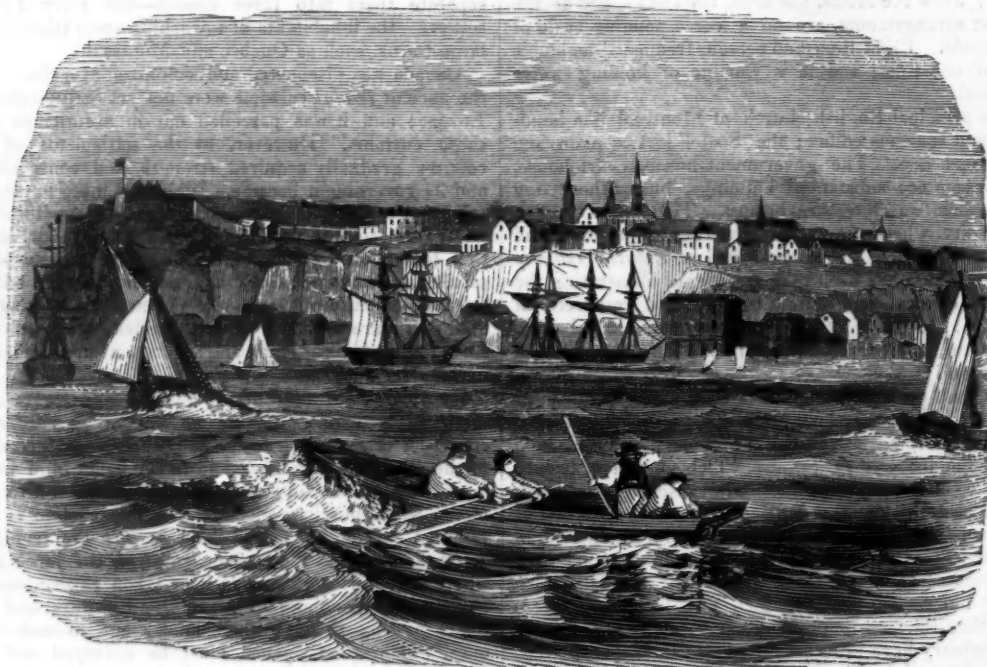
kill in the autumn such stock as is intended for the winter's food; a great portion is immediately salted; some part is frozen; and thus, though during the early part of the winter and the latter part of the summer the population live on fresh food, still for a great portion of the year their chief animal food is salted.

The people of the "townships" of Lower Canada differ greatly from the French dwellers in the earlier settled districts. The "townships" originated principally by the grants of land, on the part of the Crown, to military officers and persons who were deemed worthy of reward, whether English or not. Thus a motley population of English, Americans, Scotch, Irish, Dutch, and Germans, has sprung up; all carrying with them the habits and tone of thought of their respective countries.

These inhabitants of the various townships seem, on the whole, to be provided nearly as well as the French Canadians with the necessaries of life; but as their tastes are more diverse, the difficulty of consulting them is greater.

The population of the towns is distinguished by few peculiarities that are not common to the inhabitants of populous places generally. Here we find the same gradations of rank, the same assumptions on the one hand, and denials of superiority on the other, that are incident to similar communities. The circumstance of the two chief places of the province being garrison towns, serves also to give a certain complexion to society, and to give rise to much gaiety.

"However remote from the vortex of the *haut ton* on this side of the Atlantic," says Mr. Bouchette, "the higher circles are by no means strangers to the delicacies, etiquette, and refinements of European society; and by the agreeable union of French and English manners, that forms so peculiar a feature in the society of Canada, a degree of vivacity prevails, which holds a medium course between the austerity of English reserve and the ebullition of French rhapsody."



QUEBEC.